NASA ACADEMY 2003

at Goddard Space Flight Center

Final Presentations and Graduation Ceremony

Friday, August 8, 2003

Building 26, Room 205: 8:00 a.m. – 4:00 p.m.
NASA GSFC, Greenbelt, MD 20771

08:00-08:05 **Opening and Welcome Address:**
Dr. Vidgor Teplitz, Chief, University Programs, NASA Goddard Space Flight Center

Material Science

08:05-08:17 **Erik Dambach** – Dartmouth College, Engineering Sciences
"Polymeric Fasteners Feasibility Study"
Principal Investigator: Scott Hull, Code 591

08:19-08:31 **Meghan B. Baker** – University of Maryland, Aerospace Engineering
"Effects of Aging on Films Used for Blanket Materials"
Principal Investigator: Michael Viens, Code 541

08:33-08:45 **George Boyarko** – Case Western Reserve University, Mechanical and Aerospace Engineering
"Investigating Potential Materials for Use in Thermal Interfaces on the Hubble Space Telescope"
Principal Investigator: Ben Reed, Code 541

Mission Planning and Systems Analysis

08:47-09:59 **Joni Jorgensen** – University of Kansas, Engineering Physics
"Solar Probe Project"
Principal Investigator: Dr. Ed Sittler, Code 692

09:01-09:13 **Guillaume Collange** – Ecole Nationale Supérieure de l'Aéronautique et de l'Espace (SUPAERO)
"Formation Flying Mission Design and Analysis"
Principal Investigator: Jesse A Leitner, Code 591

09:15-09:27 **Kevin Langone** – Virginia Polytechnic Institute and State University, Aerospace Engineering
"Ariane Launch Window for Orbit Insertion of James Webb Space Telescope"
Principal Investigator: Mark Beckman, Code 595

Instrumentation and Testing

09:29-09:41 **Brett Bethke** – Massachusetts Institute of Technology, Aerospace Engineering and Physics
"Flux Transformers for Magnetic Calorimeter X-ray Detector Arrays"
Principal Investigator: Dr. Thomas Stevenson, Code 553
Co-Investigator: Dr. Simon Bandler, Code 662

09:41-09:51 **~Break~**

09:51-10:03 **Christina Pelzer** – Florida Institute of Technology, Space Sciences
"Single Electron Transistors as Multiplexers for Large Format Semiconducting Bolometer Arrays"
Principal Investigator: Harvey Moseley, Code 685

10:05-10:17 **La Vida Cooper** – Johns Hopkins University, Electrical Engineering and College of Notre Dame of Maryland, Physics
"Hyperspectral Sensor for Image-Based Wavefront Sensing"
Principal Investigator: Bruce Dean, Code 551

10:19-10:31 **Seth Koterba** – Concordia College, Physics, Mathematics
"An Interferometer for Low Uncertainty Vector Metrology"
Principal Investigator: Ronald Toland, Code 551

10:33-10:45 **Julia Sakamoto** – University of Hawaii at Manoa, Physics
"Cryogenic Polarization Chopper for Millimeter and Sub-Millimeter Waves"
Principal Investigator: Jay Chervenak, Code 553
Co-Investigator: Dominic Benford, Code 685

10:47-10:59 **David Thompson** – Pittsburg State University, Engineering Technology
"Multi-tuned Active/Passive Antenna Element Characterization"
Principal Investigator: Larry Hilliard, Code 555
Co-Investigator: Ross Henry, Code 551

Earth Sciences

11:01-11:13 **Julielynn Wong** – Queens University, M.D.
"Utilizing Geographic Information Systems and NASA's Remote Sensing Capabilities for Malaria Surveillance"
Principal Investigator: Dr. Nancy Maynard, Code 900

11:15-11:27 **Miguel Román** – University of Puerto Rico at Mayagüez, Electrical Engineering
"Modeling Urban Land-Atmosphere Interactions"
Principal Investigator: Christa Peters-Lidard, Code 974
Co-Investigator: Dr. Menglin Jin, U. of Maryland

Special Address

11:30-11:45 **Keynote Speaker:**
Mr. Al V. Diaz, Director, NASA Goddard Space Flight Center

11:45-12:00 **Photo Opportunity:**
Mr. Al V. Diaz and 2003 NASA Academy

12:00-12:30 **~Lunch~** *Served in Building 26, Room 205*

Space Sciences

12:30-12:42 **Kelly Kolb** – Villanova University, Astronomy and Astrophysics
"A Model for Near-Surface Ground Water on Mars"
Principal Investigator: Dr. Herbert Frey; Code 921

12:44-12:56 **Darin Ragozzine** – Harvard University, Physics and Astronomy & Astrophysics
"Detecting Interstellar Pickup Ions in the Solar Wind Using Cassini's Plasma Spectrometer"
Principal Investigator: Dr. Ed Sittler, Code 692

Mechanical Systems

12:58-13:10 **Alyssa Rzeszutko** – University of Illinois Urbana/Champaign, Aeronautical and Astronautical Engineering
"JWST Microshutters"
Principal Investigator: George Voellmer, Code 543

13:02-13:14 **Sally House** – The University of Arizona, Planetary Sciences
"Cooling Large Telescopes and Instruments to 4K Using Adiabatic Demagnetization Refrigerators"
Principal Investigator: Dr. Mike DiPirro, Code 552

13:16-13:28 **Jeffrey Kujawa** – University of Vermont, Mechanical Engineering
"Empirical Study of a MEMS Monopropellant Micro-Thruster"
Principal Investigator: Chuck Zakrzwski, Code 597

International Space University

13:30-13:42 **Julielynn Wong** – Queens University, M.D.
"NASA Academy / ISU Relations: Past, Present and Future"

13:42-14:00 **~Break~**

Group Project Presentation

14:00-14:40 *"Stellar Imager Pathfinder Mission"*

Science:	**Engineering:**	**Mission Design and Integration:**
Darin Ragozzine	*David Thompson*	*Meghan B. Baker*
Kelly Kolb	Brett Bethke	La Vida Cooper
Julia Sakamoto	George Boyarko	Joni Jorgensen
Sally House	Alyssa Rzeszutko	Erik Dambach
Christina Pelzer	Jeffrey Kujawa	Guillaume Collange
Seth Koterba	Miguel Román	
	Kevin Langone	

14:40-14:45 **~Break~**

Graduation Ceremony

14:45-15:15 **Presentation of Plaques:**
Dr. Vidgor Teplitz, Program Director
Dr. Richard Fahey, Program Co-Director
Mr. Dave Rosage, Program Manager
Dr. Irina Nelson, Academic Dean
Sara Jean Maclellan, Operations Manager
Paul Gosling, Logistics Manager
Julielynn Wong, Program Support and ISU Liaison
Johnny Erickson, Program and IT Support

15:15-15:20 **2003 Goddard Research Award**
Dr. Richard Fahey, Program Co-Director

15:20-15:25 **2003 Soffen Leadership Award**
Dr. Richard Fahey, Program Co-Director

15:25-15:45 **Induction into the NAAA:**
Laura Burns, Alumni Coordinator

15:45-15:55 **Farewell Address:**
David Thompson, 2003 NASA Academy Graduate

15:55-16:00 **Closing Remarks:**
Dr. Vidgor Teplitz, Program Director